

I CLAIM:

1. A network interface connectable to a packet-based data network on which a plurality of different types of payload data are distinguished by network-based packet header data;  
5       said network interface comprising:  
          a plurality of data handling nodes; and  
          a routing arrangement responsive to a packet identifier for routing data packets between said data handling nodes;  
          in which:  
10       one of said data handling nodes is a network processor for receiving data packets from and transmitting data packets to said packet-based network; said network processor being operable:
  - a) in the case of a data packet received from said data network, to detect a type of payload data from said network-based packet header data; to remove said network-based  
15       packet header data from said packet; and to associate with said packet an identifier which specifies a route across said routing arrangement to a target data handling node and a data handling operation to be carried out by said target data handling node; and
  - b) in the case of a data packet received from another data handling node and having an associated packet identifier, to detect a type of payload data from said packet identifier; to  
20       remove said packet identifier; to apply network-based packet header data in dependence on said packet identifier; and to launch said data packet onto said network.
2. A network interface according to claim 1, in which one of said data handling nodes is a data processing arrangement.  
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3. A network interface according to claim 1, in which one of said data handling nodes is a computer interface.
4. A network interface according to claim 1, in which said identifier comprises a type  
30       identifier defining a target data handling node and an action identifier defining a data handling operation to be carried out by said target data handling node.

5. A network interface according to claim 4, in which said routing arrangement comprises a demultiplexer for demultiplexing different types of packets to different routing paths in dependence on said type identifier.
- 5 6. A network interface according to claim 5, in which a respective multiplexer is associated with each data handling node, each multiplexer being arranged to receive data packets from said routing paths which have that data handling node as a target node.
7. A network interface according to claim 4, in which:  
10 said types of payload data include audio data and video data; and  
one of said data handling nodes is an audio/video processor for extracting audio and/or video data from a packet payload and generating an output audio and/or video signal.
8. A network interface according to claim 7, in which:  
15 in the case of a data packet received from said data network having an audio or video data payload, said network processor is arranged to associate with said packet an action identifier which specifies whether said payload comprises audio or video data and a type identifier specifying said audio/video processor as said target data handling node; and  
said audio/video processor processes said data packet as audio data or as video data  
20 in dependence on said action identifier.
9. A network interface according to claim 1, in which:  
said network processor has an associated memory;  
said types of payload data include at least video data; and  
25 said network processor is operable in a second mode in which an incoming video data packet is stored in said memory at a storage location dependent upon said video data carried by that packet; said video data being subsequently read out for output via a data handling node.
- 30 10. A network interface according to claim 9, in which said storage location depends on pixel position(s) relating to said video data.
11. A network interface according to claim 9, in which said video data is read out from said memory substantially straight after being stored in said memory.

12. A network interface according to claim 9, in which said video data is read out from said memory a predetermined delay period after being stored.

5 13. A network interface according to claim 1, in which at least one of said types of payload data represents asynchronous data to be carried by said network.

14. A data network comprising:

a plurality of data handling nodes, each having a network interface according to  
10 claim 1; and

a data network connecting said data handling nodes via said respective network interfaces.

15 15. A network according to claim 14, in which each data handling node comprises a source and/or a sink of data according to at least one of said types of payload data.

16. A data handling node having:

a source and/or a sink of data according to at least one of said types of payload data;  
and

20 a network interface according to claim 1.

17. A method of operation of a network interface connectable to a packet-based data network on which a plurality of different types of payload data are distinguished by network-based packet header data; said network interface comprising a plurality of data handling  
25 nodes; and a routing arrangement responsive to a packet identifier for routing data packets between said data handling nodes; in which one of said data handling nodes is a network processor for receiving data packets from and transmitting data packets to said packet-based network; said method comprising the steps of:

a) in the case of a data packet received from said data network, detecting a type of  
30 payload data from said network-based packet header data; removing said network-based packet header data from said packet; and associating with said packet an identifier which specifies a route across said routing arrangement to a target data handling node and a data handling operation to be carried out by said target data handling node; and

b) in the case of a data packet received from another data handling node and having an associated packet identifier, detecting a type of payload data from said packet identifier; removing said packet identifier; applying network-based packet header data in dependence on said packet identifier; and launching said data packet onto said network.

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18. Computer software having program code for carrying out a method according to claim 17.

19. A providing medium by which software according to claim 18 is provided.

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20. A medium according to claim 19, said medium being a storage medium.

21. A medium according to claim 19, said medium being a transmission medium.